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Institutional diversity and local forest governance

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ABSTRACT

Scholarship on common-pool resource governance suggests that collective outcomes vary with the strength of the local arrangements for compliance monitoring. Following Elinor Ostrom's approach to question panaceas, we explore the possibility that there are multiple institutional designs can help sustain forests. We test this argument with data from a sample of 200 forest user groups in Bolivia and find broad empirical support for our propositions: Local monitoring can be an important predictor of forest governance performance, but focusing on monitoring alone can be misleading. Sometimes other aspects of the local governance system, such as self-organized rule making and sanctioning, are more important in explaining why some groups govern their forests more effectively than others. We also find that the more governance functions that communities decide to organize themselves, the more likely it is that local forests are sustained.

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1. Introduction

Several scholarly papers and reports have found that local users can be good stewards of common-pool resources (i.e. Ostrom, 1990; Arnold, 1990; Ascher, 1995; Clugston and Rogers, 1995). Much of the empirical literature on natural resource management argues that local users hold important time- and place-specific knowledge that is necessary for the creation of successful governance regimes (Gibson and Koontz, 1998; Berkes, 1989; Bromley, 1992; McCay et al., 1987; McKean, 1992; Ostrom, 1999; Hayek, 1948). Recent empirical studies suggest that local groups are often at least as effective forest managers as national governments (Hayes, 2006; Somanathan et al., 2009; Nelson and Chomitz, 2009; Porter-Bolland et al., 2012).

These findings notwithstanding, research on community-based forest management activities suggest that these have had rather mixed outcomes: Some communities govern their

resources successfully while others do not do as well (Bray et al., 2003; Nagendra et al., 2005). What factors help explain such divergent outcomes? Here, we address this question by focusing on the role played by a variety of local institutional arrangements that local forest user groups employ to control access to and regulate use of forest resources.

Several previous studies have found that one particular type of local institutional arrangements – community-organized monitoring activities – is a key factor in explaining local variation in forest conditions (i.e. Ostrom and Nagendra, 2006; Agrawal and Chhatre, 2006; Chhatre and Agrawal, 2008; Coleman, 2009; Gibson et al., 2005). A recurring finding in all of these studies is that local forest communities that carry out rule-compliance monitoring are more likely to have forests in good conditions.

Here, we argue that there may be other aspects of self-governance apart from monitoring arrangements that are critical in understanding why some groups enjoy better forest

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conditions than others. Our central idea is that it makes good theoretical sense to distinguish between at least three aspects of self-organized governance activities: rule-making, monitoring, and sanctioning. By incorporating these three complementary measures of local governance into our study of local forest governance, we believe we are in a position to gain a more nuanced understanding of the particular aspects of self-governance that are most important for resource outcomes. We argue that groups that have organized themselves to carry out at least some of these governance functions increase the odds of being able to sustain forests.

The argument that we develop has four parts. First, we discuss the important contributions of local forest users to the governance of forest resources. We argue that local involvement in forest governance is critical because local users not only possess unique knowledge and skills about the social and natural systems in which they live, but they also have a direct stake in the sustenance of the common-pool resource system. Second, we explore the possibility that successful local governance of forests does not always require local user groups to self-organize and carry out all three governance functions – the complete “package” of self-governance – but there may be circumstances under which user groups can manage their forests successfully by carrying out just one or two of these functions. The consequence of this possibility leads us to the third part of our argument, which is that local forest governance is not just about monitoring but there are a multiple institutional designs of local governance that user groups may employ. Finally, the fourth part of our argument is that while there may be circumstances under which it is sufficient for user groups to carry out only one or two governance functions in order to protect their forest, we predict that, in general, the more involved a user group is in organizing multiple forest governance activities, the more likely it is that their forest will thrive. To test these four linked arguments, we use data from a nationally representative sample of 200 rural settlements in Bolivia and employ statistical techniques to analyze the relationships between local institutional arrangements and three different measures of local forest conditions.

The rest of the paper is structured as follows: In the next section, we review previous empirical research in the area of local governance of CPRs. We then present two cases of local forest governance in the Bolivian context and use these cases to illustrate our theoretical arguments. Section 4 describes the context in which we test this argument empirically: the Bolivian forestry sector. After providing a brief outline of the data collection methods, we use statistical analysis to test the paper’s central argument. We end by interpreting the statistical results and discussing the broader implications of our study.

2. Previous research

Several scholars have identified a large number of micro-level or so-called contextual variables that affect the effectiveness of local communities’ efforts to govern common pool resources. Agrawal (2001) reviews three major studies on community governance of CPRs (Wade 1988; Baland and

Platteau, 1996; Ostrom, 1990) and identify over 40 variables that are potentially influential determinants of community self-governance of CPRs. The characteristics of local institutional arrangements that appear to be the most important, judging from the cases examined in these three major studies, include the rule-making process, the characteristics of the rules, monitoring and enforcement of rule compliance, and the imposition of sanctions on rule violators.

Our review of the empirical literature on local governance of forests identified nine recent studies that engage in systematic comparative analyses of the ways in which local institutional arrangements affect forest governance performance (Coleman, 2009; Coleman and Steed, 2009; Gibson et al., 2005; Ostrom and Nagendra, 2006; Agrawal and Chhatre, 2006; Chhatre and Agrawal, 2008; Ghate and Nagendra, 2005; Banana and Gombya-Ssembajjwe, 2000; Webb and Shivakoti, 2008). With some variation in magnitude of the effects, all of these studies find that the local arrangements for monitoring and enforcement have a positive impact on local forest conditions. None of these studies, however, include in their empirical analyses other functions of self-governance—such as self-organized rule-making or sanctioning systems. This means that the analyses in these studies may have over-estimated the effect of monitoring and enforcement vis-a-vis other aspects of self-governance. This is a possibility that we set out to test in this paper.

Gibson et al. (2005) analyze empirical data from 178 user groups in eight different countries. Controlling for the influence of social capital and resource dependency, they find that local monitoring and enforcement activities are positively associated with the people’s perceptions of forest conditions. Consistent with these results, Ostrom and Nagendra (2006) show that local community monitoring and enforcement of rules for entry into and use of resource systems is significantly associated with positive changes in both forest basal area and tree stem densities (p. 19230).

Chhatre and Agrawal (2008) examine the relationship between local enforcement and the conditions of forest commons. Analyzing a multi-country dataset with observations from 152 community user groups in nine different countries, their analysis finds that high levels of community enforcement has a strong positive effect on the probability that a given community’s forest condition is improving. They also find that enforcement plays a moderating role in that it tempers the negative effect of some of the known drivers of forest degradation. In Agrawal and Chhatre (2006), the same authors analyze a set of communities in the Indian Himalayas and find a positive effect of monitoring and enforcement arrangements (as well as using cash fines) on local perceptions of forest conditions. Finally, Coleman (2009) uses longitudinal data on rural communities’ use of 46 forests and finds that groups that carry out monitoring and enforcement activities are more likely to have forests in stable or improving conditions.

Ostrom and Nagendra (2006) acknowledge that community monitoring and enforcement activities are no panacea for governing forest commons, and in the words of the authors: “focusing on monitoring alone is not sufficient” (p. 19230). Nevertheless, the empirical analyses in the reviewed studies do not control for the possibly independent effects of other

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